



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,887	01/17/2006	Yutaka Yasukura	SEKI-0012	3860
68733	7590	08/01/2008	EXAMINER	
Rene A. Vazquez			COPPOLA, JACOB C	
Williams Mullen			ART UNIT	
8270 Greensboro Drive, Suite 700			PAPER NUMBER	
McLean, VA 22102			3621	
			MAIL DATE	DELIVERY MODE
			08/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,887

Applicant(s)

YASUKURA, YUTAKA

Examiner

JACOB C. COPPOLA

Art Unit

3621

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 17 January 2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgements

1. This action is in reply to the Preliminary Amendment filed on 17 January 2006.
2. Claims 1-6 are currently pending and have been examined.
3. All references to the capitalized versions of "Applicants" refer specifically to the Applicants of record. Any references to lower case versions of "applicant" or "applicants" refer to any or all patent "applicants." Unless expressly noted otherwise, references to "Examiner" refers to the Examiner of record while reference to or use of the lower case version of "examiner" or "examiners" refers to examiner(s) generally. The notations in this paragraph apply to this Office Action and any future office action(s) as well.
4. This Office Action is given Paper No. 20080722. This Paper No. is for reference purposes only.

Information Disclosure Statement

5. The Information Disclosure Statement filed on 17 January 2006 has been considered. An initialed copy of the Form 1449 is enclosed herewith.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-6 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

a. **As per claims 1-6**, the system of claim 1, and all dependent claims thereof, are directed to a network-based system. "System" is commonly used to denote a machine. Here, the claim is not directed to a machine, but to a process, program, or code. Network-based applications, programs and code are not statutory subject matter. Alternatively, processes and "computer-executable programs tangibly embodied on a computer readable medium" may be considered statutory subject matter under 35 U.S.C. 101.

Claim Rejections - 35 USC § 112, 2nd Paragraph

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-6 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

- b. **As per claims 1-6**, these claims are indefinite because they are considered hybrid claims. See MPEP §2173.05(p) II. In particular, the claims are directed to neither a "process" or a "machine" but rather embrace or overlap two different statutory classes of invention as set forth in 35 U.S.C. §101.
- c. For example, claim 1 recites "an electronic information management system... comprising a processing unit and a plurality of files... wherein the processing unit divides... stores... saves...reads... collects... decrypts... compares... collects... decrypts... provides". In light of this evidence, one of ordinary skill in the art could reasonably interpret these recitations as express intent by Applicant to claim a machine claim. Alternatively, one of ordinary skill in the art could also reasonably interpret these recitations as express intent by Applicant to claim a process claim. In light of this conflicting evidence, a person of ordinary skill in the art could reasonably interpret claims 1-6 to be drawn to either a product or process.
- d. Therefore in accordance with §2173.05(p) II which states that a single claim must be drawn to either a product or process (but not both) and because a potential competitor of Applicant would not know whether *possession alone* of the claimed structure constituted infringement, or alternatively, if infringement required the *execution* of the recited method steps, the claims are indefinite. If Applicant overcomes this particular 35 U.S.C. §112, 2nd paragraph rejection, the related 35 U.S.C. §101 rejection will also be withdrawn.

- e. **As per claim 1**, this claim recites a system "comprising a processing unit and a plurality of files". This claim is indefinite because one of ordinary skill in the art could not determine how "a plurality of files" constitutes a system component.
- f. **As per claim 1**, this claim recites "stores the pieces in separate files respectively". This claim is indefinite because one of ordinary skill in the art could not determine if the pieces of authentication information are stored in one file and the pieces of attribution information are stored in a second file, or if each piece of attribution information and each piece of authentication information is stored in a separate file.
- g. **As per claim 1**, this claim recites "saves a storage information... storing of the pieces in public information files". This claim is indefinite because one of ordinary skill in the art could not determine which is stored in public information files, the storage information or the pieces.
- h. **As per claims 1, 2, and 5**, these claims recite a step of "decrypting". These claims are indefinite because one of ordinary skill in the art could not determine how the information being previously divided constitutes the need for the information being decrypted.
10. The Examiner finds that because the claims are indefinite under 35 U.S.C. §112, 2nd paragraph, it is impossible to properly construe claim scope at this time. However, in accordance with MPEP §2173.06 and the USPTO's policy of trying to advance

prosecution by providing art rejections even though these claims are indefinite, the claims are construed and the prior art is applied as much as practically possible.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-4 and 6, as understood by the Examiner, are rejected under 35 U.S.C. §103(a) as being unpatentable over Ballantyne et al. (U.S. 5,867,821 A) ("Ballantyne"), in view of Yasukura (E.P. 1,327,937 A1) ("Yasukura").

13. **As per claim 1**, Ballantyne discloses the following limitations:

- i. *wherein the processing unit (inherent to the ML system of Ballantyne) stores each of electronic information of a user authentication information ("unique identification number") and a user attribution information ("patient's electronic medical record"), stores the information in separate files respectively ("health record database" and "central user list") (see column 7, lines 66+), and*
- j. *when the processing unit receives a request of a user attribution information ("to gain access... each user first enters their ID number"), the processing unit collects the user authentication information from the separate file and compares the decrypted or restored user authentication information with*

input user authentication information to identify the user ("ID number is validated with a central user list to confirm they are a legitimate user") (see column 7, lines 66+), and

k. provides the decrypted or restored information to the user, only after the user authentication is passed ("the validated user is now allowed to access the patient's electronic medical record") (see column 7, lines 66+).

14. Ballantyne does not specifically disclose a processing unit that:

l. divides the electronic information into pieces and stores the pieces in separate files respectively, and

m. saves a storage information explaining procedures of storing of the pieces in public information files.

15. Yasukura, however, does disclose a processor unit that:

n. divides the electronic information into pieces and stores the pieces in separate files respectively (see figure 1, figure 2, and associated text), and

o. saves a storage information explaining procedures of storing of the pieces in public information files (see figure 1, figure 2, and associated text).

16. Additionally, Ballantyne does not disclose that when the processing unit receives a request of a user attribution information, the processing unit:

p. reads out the storage information from one of the public information files, and

q. collects the pieces of the electronic information of the user authentication information from the separate files, and

- r. *decrypts or restores the user authentication information based on the storage information, then*
 - s. *collects the pieces of the electronic information of the user attribution information from the respective files, and*
 - t. *decrypts or restores the user attribution information.*
17. Yasukura, however, does disclose that when the processing unit receives a request of a user attribution information, the processing unit:
- u. *reads out the storage information from one of the public information files (see figure 3, figure 4, and associated text), and*
 - v. *collects the pieces of the electronic information of the user authentication information from the separate files (see figure 3, figure 4, and associated text), and*
 - w. *decrypts or restores the user authentication information based on the storage information (see figure 3, figure 4, and associated text), then*
 - x. *collects the pieces of the electronic information of the user attribution information from the respective files (see figure 3, figure 4, and associated text), and*
 - y. *decrypts or restores the user attribution information (see figure 3, figure 4, and associated text).*
18. One of ordinary skill in the art would have recognized that applying the known technique of Yasukura would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of

Yasukura to the teachings of Ballantyne would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such secure data processing features into similar systems. Further, applying the processor of Yasukura that divides information, stores the information in separate files, and saves storage information to Ballantyne with authentication information and medical information, would have been recognized by those of ordinary skill in the art as resulting in an improved system that would allow for a higher level of security.

19. **As per claim 2**, Ballantyne/Yasukura discloses the limitations of claim 1, as described above. Ballantyne/Yasukura, further, discloses the limitations:

z. wherein the division of the user authentication electronic information and the user attribution electronic information is implemented by dividing the electronic information at designated bit positions into a plurality of small information elements, permuting the plurality of the information elements in an order which is designated using the secret sharing scheme algorithm, and dividing the whole of the permutation into a designated number to store the information in separate files as electronic information blocks, characterized in that the decryption of the user authentication electronic information and the user attribution electronic information is implemented by collecting the electronic information blocks of subject electronic information from the files storing the electronic information blocks, re-permuting the information elements in original order based on the designated order, and connecting the re- permuted

information elements to decrypt the original electronic information (see Yasukura, figure 2, figure 4, and associated text).

20. **As per claim 3**, Ballantyne/Yasukura discloses the limitations of claim 2, as described above. Ballantyne/Yasukura, further, discloses the limitations:

aa. *wherein information compression is applied to the electronic information or the electronic information blocks when the user authentication electronic information and the user attribution electronic information are divided (see Ballantyne, column 7, lines 66+).*

21. **As per claim 4**, Ballantyne/Yasukura discloses the limitations of claim 1, as described above. Ballantyne/Yasukura, further, discloses the limitations:

bb. *wherein plural types of the user authentication information are stored, and a type and a combination of types of the user authentication information for confirmation purpose can be specified from a list stored in the public information file depending on the importance of user attribution information (see Ballantyne, column 7, lines 66+).*

22. **As per claim 6**, Ballantyne/Yasukura discloses the limitations of claim 1, as described above. Ballantyne/Yasukura, further, discloses the limitations:

cc. *wherein the request of provision of the user attribution electronic information and the actual provision of the information are implemented through a communication terminal device (see Ballantyne, column 7, lines 66+).*

23. Claim 5, as understood by the Examiner, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ballantyne/Yasukura, in further view of Shamir (How to Share a Secret) ("Shamir").

24. **As per claim 5**, Ballantyne/Yasukura discloses the limitations of claim 1, as described above. Ballantyne/Yasukura does not specifically disclose the following limitations; Shamir, however, does disclose the limitations:

dd. *wherein the electronic information can be decrypted even if between one and k files are lost, where k is an integer satisfying the relationship of $(n - 1) > k \geq 1$, by dividing the electronic information into n pieces and storing them in overlap in separate files (see at least Shamir, column 2, lines 10-29).*

25. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include in the teachings of Ballantyne/Yasukura the mathematical concepts of the "threshold scheme". One would have been motivated to do so because the system will not work securely unless it is mathematically defined as Shamir has defined it in his paper "How to Share a Secret".

26. The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as

potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Conclusion

27. In accordance with *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002), the Examiner finds that the references How Computers Work, Millennium Ed. By Ron White; How Networks Work, Bestseller Ed. By Frank J. Derfler et al.; How the Internet Works, Millennium Ed. By Preston Gralla; and Desktop Encyclopedia of the Internet by Nathan J. Muller, are additional evidence of what is basic knowledge or common sense to one of ordinary skill in this art. Each reference is cited in its entirety. Moreover, because these references are directed towards beginners (see e.g. "User Level Beginning..."), because of the references' basic content (which is self-evident upon examination of the references), and after further review of the entire record including the prior art now of record in conjunction with the factors as discussed in MPEP §2141.03 (where practical), the Examiner finds that these references are primarily directed towards those of low skill in this art. Because these references are directed towards those of low skill in this art, the Examiner finds that one of ordinary skill in this art must—at the very least—be aware of and understand the knowledge and information contained within these references.

28. Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to Jacob C. Coppola whose telephone number is (571) 270-3922. The

Art Unit: 3621

Examiner can normally be reached on Monday-Friday, 9:00 a.m. - 5:00 p.m. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew Fischer can be reached at (571) 272-6779.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, please contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Jacob C Coppola/
Examiner, Art Unit 3621
July 22, 2008

/ANDREW J. FISCHER/
Supervisory Patent Examiner, Art Unit 3621